

**CITY OF LINCOLN**  
**AD HOC WATER RATE COMMITTEE**  
**MEETING #6 – AGENDA**  
**Monday, May 22, 2017, 3:00 PM**  
**City Hall – First Floor Meeting Room**

- I. Summary of Prior Committee Meeting
- II. Proposed Uniform Volumetric Rate Structure
- III. Potential Peak Day Additional Capacity Charge
- IV. Parking Lot Issues
- V. Committee Final Recommendations



# City of Lincoln Water Rate Study

---

6<sup>th</sup> Water Rate Committee Meeting

May 22, 2017

# TODAY'S AGENDA

1. Summary of Prior Committee Meeting
2. Proposed Uniform Volumetric Rate Structure
3. Potential Peak Day Additional Capacity Charge
4. “Parking Lot Issues”
5. Committee Recommendations

# Summary

# PREVIOUS MEETING SUMMARY

1. Continued Zone B/ PCWA Capacity issues discussion
2. Presented three rate options
  - A. Citywide Uniform Rate
  - B. Uniform Rate by Zone - Recovery of approx. \$4 M of 2006 PCWA Costs
  - C. Uniform Rate by Zone with Additional Capacity Costs – Includes 2006 PCWA cost recovery
  - D. Committee seemed to prefer Citywide Uniform Volumetric Rate without recovery of prior 2006 PCWA costs
3. Introduced Additional Capacity concept – two possible methodologies presented
4. City to review costs of installing AMI for Zone B
5. City to provide PCWA/NID WCC accounting

# **Volumetric Rate Structure**



# CITYWIDE UNIFORM VOLUMETRIC RATE FOR ALL CUSTOMERS

- This volumetric uniform rate to be applied citywide
- Customers will also be charged a fixed charge per account, based on meter size

## Uniform Rate Component Calculation

Line #		Total
1	Total Variable Costs to be Recovered	\$6,917,860
2	Total Use (K gal)	<u>÷ 2,486,121</u>
3	<b>Uniform Rate for All Customers (\$/ K gal)</b>	<b>\$2.79</b>

Note: Above rate does not include most latest changes to City's water budget, although indications are that changes will be minimal.

# **Peak Day Additional Capacity Charge**



# CURRENT ZONE B EDUs AND PEAK DEMAND

## City of Lincoln

Status of Zone B (Unregulated Zone) Water EDU's

	EDU's
<b>Current PCWA Unregulated Contract</b>	<b>632.15</b>
<b>Building Permits for Unregulated EDU's as of June 30, 2016:</b>	
Residential	706.00
Irrigation & Commercial	68.54
<b>Total Paid EDU's as of June 30, 2016</b>	<b>774.54</b>
<b>Building Permits Issued - July 1, 2016 to April 15, 2017:</b>	<b>75.00</b>
<b>Total Paid EDU's as of April 15, 2017</b>	<b>849.54</b>

\* July 31, 2016 - Unregulated peak day demand 989.57

EDU Consumption in excess of Paid EDU's (989.57 - 774.54) 215.03

# TOTAL ZONE B MAX DAY USE Vs. CAPACITY PURCHASED (2016)

Line #

1	Current PCWA Unregulated (Zone B) Capacity (EDUs)	632.15
2	2006 Purchased EDUs	<u>+ 351.70</u>
3	Total Unregulated (Zone B) Purchased Capacity in EDUs	983.85
4	Peak Day EDU Use (July 31, 2016)	<u>- 989.57</u>
5	Surplus (Shortfall) EDUs (assuming same Peak Day use)	(5.72)

Source: City of Lincoln

# WHAT WILL TRIGGER A NEED FOR ADDITIONAL EDU CAPACITY?

- Additional capacity charges will only be calculated and applied to accounts exceeding PCWA EDU peak day allotments when capacity is exceeded *and* PCWA bills the City for additional capacity
- Based on historic usage data, it is unlikely that additional capacity will be required in Zone A (regulated water) for existing accounts
- Even with the already purchased PCWA EDU capacity  $632.15 + 351.7 = 983.85$  EDU, current purchased capacity has been exceeded in Zone B on peak water use days (by 5.72 EDU, see slides 8 and 9)
- Additional capacity charges will not likely be charged to the City by PCWA until the new pipeline and additional 8" meter is installed in Zone B (unregulated water zone)
- If the total unregulated water capacity is exceeded on any given day, PCWA will charge the City additional Water Connection Charges (WCCs) per gallon based on total Peak Day water capacity needs

# ADDITIONAL CAPACITY CHARGES

## OTHER CONSIDERATIONS

- To the extent that average Zone B Peak Day water usage is reduced, the need to purchase additional capacity in Zone B will be commensurately reduced
- Only those accounts that are estimated to cause the additional PCWA WCC charges to the City will be charged
- Additional EDU capacity purchased by the charges will be added to the capacity of the accounts charged going forward; the city will need to adjust and track these accounts accordingly
- Additional Capacity Charges would be fully due upon billing

# WCC PEAK DAY ADDITIONAL CAPACITY CHARGE: ONE POSSIBLE METHODOLOGY

- Identify the accounts causing either Zone (A or B) to exceed purchased EDUs
- Apply a Maximum Day (“Max Day”) Factor derived from the City of Lincoln Draft Water Master Plan to monthly water consumption data available by account
- Charge accounts exceeding the max day capacity for number of gallons based on their current purchased capacity (e.g., # EDUs x 1,150 GPD)
- See slides 13 and 14 for example of calculations



# DERIVATION OF PROPOSED ADDITIONAL CAPACITY CHARGE (WCC)

This method assumes that specific peak day account data is unavailable.

Line #	Max Day Factor	
1	System-Wide Max Day Factor	2.00
2	Zone B Max Month Factor	<u>÷ 1.72</u>
3	Ratio of Max Day to Max Month	1.16

Line #	Cost Per GPD of Capacity	
1	PCWA Capacity Charge per EDU	\$18,337
2	GPD Per EDU	<u>÷ 1,150</u>
3	\$ Per Gallon (of Max Day Capacity)	\$15.95

# EXAMPLE PEAK DAY CAPACITY CHARGE CALCULATION

Line #	Sample Calculation
1	Max Month Use 35,000
2	Days (July) $\div 31$
3	Average Gallons per Day 1,129
4	Ratio of Max Day to Max Month $\times 1.16$
5	Projected Gallons on Max Day 1,313
6	Max Day Capacity (GPD) Per EDU $- 1,150$
7	Max Day Gallons Above Capacity 163
8	\$ Per Gallon (\$18,337/EDU *1 EDU/1,150 GPD) $\times \$15.95$
9	Charge For Exceeding Capacity by Projected 163 Gallons \$2,599.85
10	Revised Monthly Maximum Capacity for account 40,700
11	Days (July) $\div 31$
12	Revised Maximum Gallons per Day Before Triggering Additional Charges 1,313

# USE OF AMI FOR ADDITIONAL CAPACITY CHARGE CALCULATIONS

- More detailed account data could be available if AMI is implemented in Zone B (at a minimum cost of approximately \$300,000) to replace Max Day Factor estimates
- AMI will provide actual Peak Day values and city will not have to use calculations to estimate peak day water use
- Additionally, AMI will help customers be cognizant of their peak day usage in real time and allow them to voluntarily conserve to avoid going over capacity and incurring charges.

# **“Parking Lot” Issues**

# CITY OF LINCOLN

## ZONE B CONTRIBUTIONS AND COSTS

Line  
#

1	Credit for 67% of City Water impact fees paid by Zone B	\$2,423,000
2	Credit for Capital Replacement funding to date	\$319,055
3	5 Year R&R (See slides 18-19 for calculations)	+\$1,010,660
		<hr/>
4	Total funding to be provided by Zone B	<b>\$3,752,715</b>
5	215.03 EDUs on July 31,2016 (Max Day Peak) based on EDU cost of \$18,337 (Cost in Zone B)	<b>\$3,943,005</b>

Source: City of Lincoln; RFC for Line 3 calculations



# ZONE B R&R CALCULATION

Line #		From Volumetric Revenue
1	Total 5 Year R&R Costs (Inflated)	\$19,431,995
2	% of Capital Funded by Volumetric Rates	<u>x 90.51%</u>
3	Total Volumetric Capital Recovery	\$17,587,865
4	Zone B's % of Total Consumption	<u>x 5.43%</u>
5	Projected Zone B Variable Contribution to Pipeline R&R	\$954,448

Line #		From Fixed Charge Revenue
1	Total 5 Year R&R Costs (Inflated)	\$19,431,995
2	% of Capital Funded by Fixed Charges	<u>x 9.49%</u>
3	Total Fixed Charge Capital Recovery	\$1,843,130
4	Zone B's % of Fixed Charge Payments	<u>x 3.03%</u>
5	Projected Zone B Fixed Charge Contribution to Pipeline R&R	\$56,212

# ZONE B R&R CALCULATION (CONT.)

Line #		Total Cost
1	Projected Zone B Variable Contribution to Waterline R&R	\$954,448
2	Projected Zone B Fixed Charge Contribution to Waterline R&R	+ \$56,212
3	Zone B's Total Projected Pipeline R&R Cost (5 years)	<hr/> \$1,010,660

Note: Calculations in slides 18 and 19 vary slightly from “hand” calculations due to rounding.

# CITY OF LINCOLN PCWA/NID WCC FUND ACCOUNTING

Line #

	Water Connection Charge (WCC) Fund – Current Cash	
1	Balance	<u>\$26,109,967</u>
2	Prepaid Capacity (Regulated) – Prepaid PCWA WCC's for projects (primarily Twelve Bridges) in Zone A.	- \$11,791,969
3	Phase 3 Pipeline Construction – Funds committed to construct PCWA Phase 3 pipeline along eastern border of the City.	- \$3,866,000
4	Zone B Payments Received since July1,2016 -Funds reserved to purchase additional PCWA EDUs for new Zone B development	- \$751,817
5	NID Treatment Plant project - City Council has been and will continue to review the timing and funding participation level of a new treatment plant with NID.	- <u>\$9,700,181</u>

\$0

All data provided by City of Lincoln.



# ZONE B IRRIGATION USAGE

The following is the City of Lincoln Department of Public Work's estimate of EDU savings due to transition of three accounts in Zone B from potable to irrigation "ditch" water.

Month	031082 Usage (K gal)	031080 Usage (K gal)	030561 Usage (K gal)	Usage of meters to be converted (K gal)	All Irrigation Meters Usage (K gal)
Sep-16	145	1,345	593	2,083	3,549
Aug-16	128	1,374	573	2,075	3,433
Jul-16	163	1,363	154	1,680	3,123
Average Summer Month Usage	145.33	1,360.67	440.00	1,946.00	3,368.00
Average EDUs	4.15	38.88	12.57	55.60	97.60
Max Month Irrigation EDUs (Sep-16)					102.87
Max of Converted EDUs					- 60.38
Remainder of EDUs required for Irrigation Purposes in Zone B				(Detailed calculations shown in next slide.)	42.49

# ZONE B IRRIGATION USAGE (CONT'D)

Due to Max Month water usage, 42.49 EDU will still be needed. (Max Day requirements would likely be even higher.) **No reimbursements for converted accounts are therefore indicated.**

Max Month	031082 Usage (K gal)	031080 Usage (K gal)	030561 Usage (K gal)	Usage of Meters to be Converted (gal)	All Irrigation Meters Usage (gal)
Sep-16	145	1,345	593	2,083,000	3,549,000
Days in Max Month				÷ 30	÷ 30
Average Gallons per Day				69,433	118,300
Gallons per EDU				÷ 1,150	÷ 1,150
Average EDUs Needed for Irrigation Per Day				60.38	102.87
Average Max Month Use of Converted EDUs					- 60.38
Remainder of EDUs required for Irrigation Purposes in Zone B after Conversion of 3 Accounts to "ditch" Water					42.49



# COMMITTEE RECOMMENDATIONS FOR REVIEW AND VERIFICATION

- 33% Operating Reserve Fund Rate
- Mid-Range (10 year) Pipeline Repair and Replacement CIP
- Single citywide, uniform volumetric rate
- Additional Capacity Charge, to be imposed when necessary
- AMI installation in Zone B